Alcohol advice in primary health care: is it a wise use of resources?

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Alcohol advice in primary care.

Type of intervention
Primary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
Two hypothetical cohorts of 40 year old men.

Setting
Primary care. The study was set in Sweden.

Dates to which data relate
Effectiveness and resource use data were collected from studies published between 1980 and 1997. Cost data were collected from 1995 sources. The price year was 1997.

Source of effectiveness data
Effectiveness data were derived from a literature review.

Outcomes assessed in the review
The review assessed the relative risk of mortality between heavy and moderate drinkers.

Study designs and other criteria for inclusion in the review
Effectiveness estimates were derived from controlled trials and long-term observational studies.

Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Not stated.
Methods used to judge relevance and validity, and for extracting data
Summary statistics from individual studies.

Number of primary studies included
At least 6 studies were included.

Methods of combining primary studies
Narrative method.

Investigation of differences between primary studies
Not stated.

Results of the review
The relative risk of mortality of heavy versus moderate drinkers varied in the interval 1.5-3. Moderate drinkers had the same annual age-specific mortality risk as average Swedish men during the period 1991-1995. Heavy drinkers had double the mortality risk during the ages 40-70. After the age of 70, the two cohorts had the same mortality risk.

Measure of benefits used in the economic analysis
The measure of benefits used was years of life saved (YLS). Benefits were discounted at an annual rate of 5%.

Direct costs
Direct costs were discounted at an annual rate of 5%. Quantities and costs were reported separately. Direct costs included the cost of screening with a CAGE questionnaire, the production cost of a visit to a GP, and the production cost for a GT-test. The quantity/cost boundary adopted was that of the health service. The estimation of quantities and costs was based on actual data. Production cost for a GT-test was obtained from Umea University Hospital. The price year was 1997.

Statistical analysis of costs
No statistical analysis of costs was reported.

Indirect Costs
Indirect costs were not included.

Currency
European Currency Units (ECU).

Sensitivity analysis
Sensitivity analyses were conducted on the relative risk of mortality, and the proportion of patients that changed from "heavy" to "moderate" drinking.

Estimated benefits used in the economic analysis
At the age of 45, there were 990 survivors in the "heavy" drinker cohort and 980 in the "moderate" drinker cohort. At the age of 70, there were 763 and 570 survivors, respectively. Heavy drinkers gained 3.7 years of life if they reduced their consumption of alcohol before the age of 40.
Cost results
The annual direct health care costs were 700 ECU for "moderate" drinkers and 1,400 ECU for "heavy" drinkers aged 40-44 years. The annual direct health care costs were 1,400 ECU for "moderate" drinkers and 2,800 ECU for "heavy" drinkers aged 65-69 years.

Synthesis of costs and benefits
The cost-effectiveness of alcohol advice was compared to that of other preventive measures directed at the same age group. If the relative risk were equal to 2, a treatment effect of 10% was enough to give cost-effective results, even if the intervention involved 25 visits. If the effect dropped to 2%, the ratio increased to 93,000 ECU/YLS. If the lowest relative risk (1.25) was combined with the lowest effect, the ratio increased to 372,000 ECU/YLS, a level that must be judged cost-ineffective. If the short intervention could achieve an effectiveness of 2%, it would be cost-effective even if the relative risk was 1.25. When nurses gave advice, savings were greater than costs if the effectiveness was 10% or better. Also in the 25-visit programme, the cost-effectiveness was acceptable despite low effectiveness (2%) if the relative risk was 1.5 or greater.

Authors' conclusions
If about 1% make lasting changes, a brief intervention is relatively cost-effective (20,000 ECU/YLS) and if about 10% change, resources will be saved in health care.

CRD COMMENTARY - Selection of comparators
Both hypothetical interventions were compared to doing nothing (i.e. giving no advice to reduce alcohol consumption). You, as a user of the database, should decide if these approaches are relevant to your setting.

Validity of estimate of measure of benefit
The authors did not state that a systematic review of the literature had been undertaken. More details could have been provided about the design of the review and the method of combining primary effectiveness estimates. The estimation of benefits was obtained directly from the effectiveness analysis. No data were available on whether nurses could achieve results similar to those of GPs. The authors did not use QALYs to account for disease-free time arising from reduced alcohol consumption.

Validity of estimate of costs
Some good features of the cost analysis were that all relevant cost categories were included, quantities and costs were reported separately and sensitivity analyses were conducted on quantities (but not on costs). The price year was also reported. However, the validity of the cost analysis was limited by the fact that production losses, and the costs for criminality and other social problems caused by alcohol were not included.

Other issues
The authors did not make comparisons of their findings with those from other studies and did not address the issue of generalisability to other settings. The authors did not present their results selectively. The study considered "heavy" and "moderate" drinkers aged 40 years, and this was reflected in the authors' conclusions. The calculations only applied to men. This kind of intervention might work better in some social groups than in others.

Implications of the study
If about 1% make lasting changes, a brief intervention is relatively cost-effective (20,000 ECU/YLS) and if about 10% change, resources will be saved in health care. If the intervention is undertaken by nurses, the cost-effectiveness improves further.
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